EASA
European Union Aviation Safety Agency

Part 21 Light – Overview and Next Steps AERO 2023

20th April 2023

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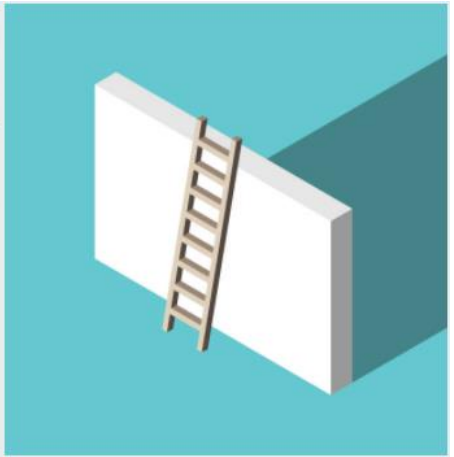
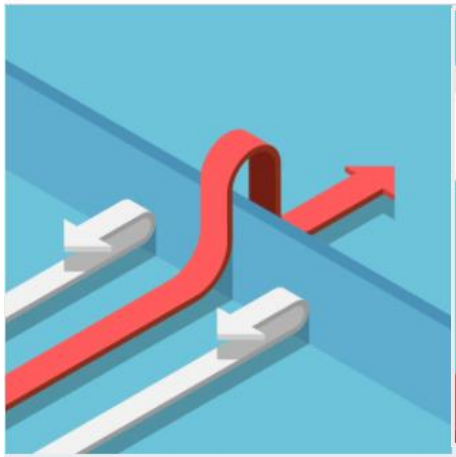
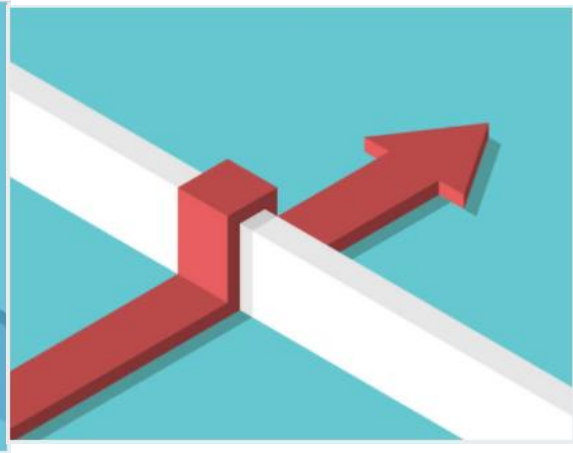
CT.5.1 Initial Airworthiness Standards and Specifications

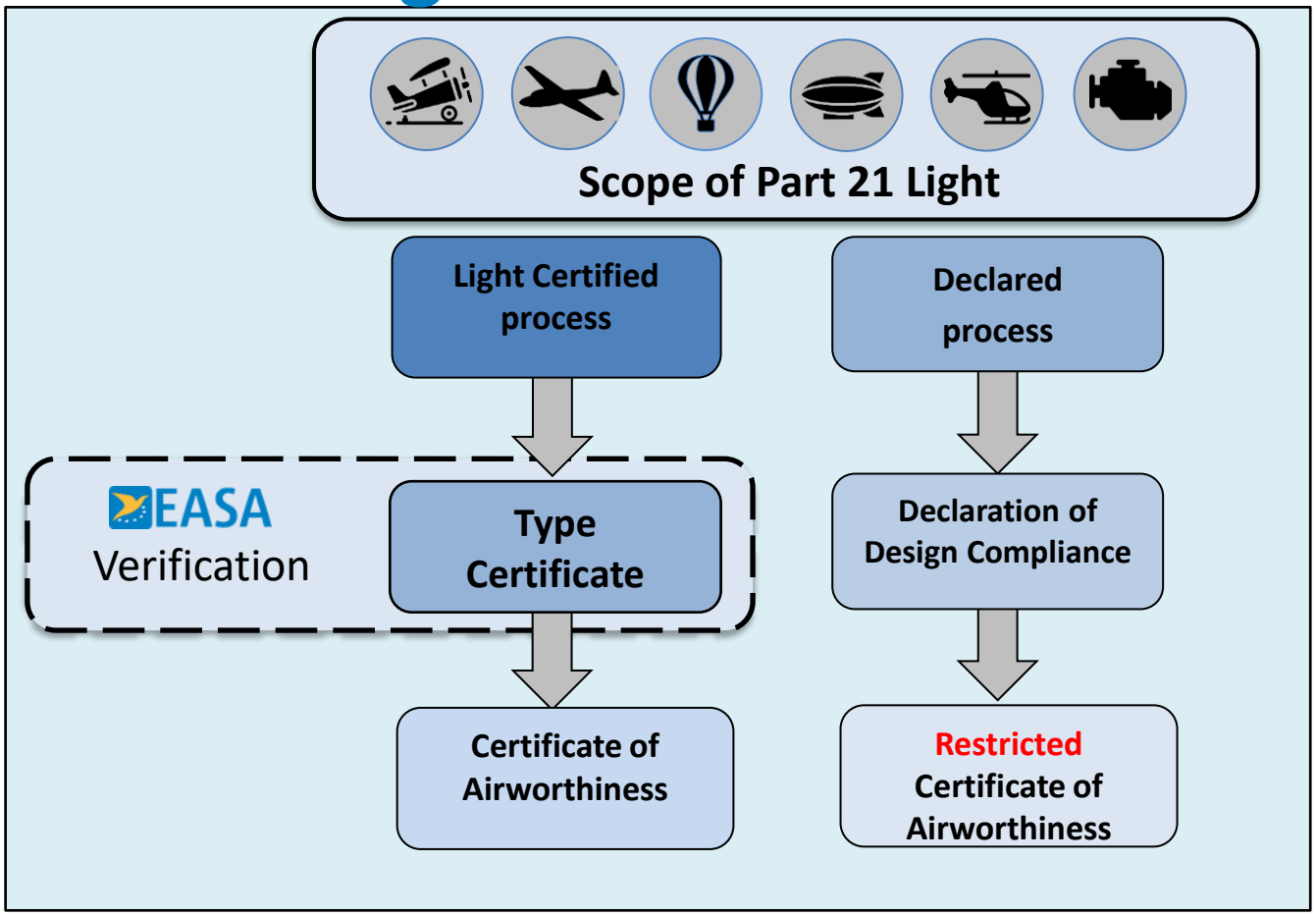
Contents

Part 21 Light- Main objectives

Enable the application of a **proportionate approach** for products that are considered to **pose less risk** when compared with other more complex products.

Part 21 Light- Overview



Scope of Part 21 Light

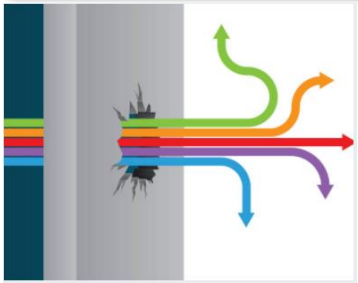
Light Declared aircraft

Aeroplanes with a MTOM of **1 200 kg** or less with a seating configuration of **maximum 2 persons**;

Sailplanes or powered sailplanes of **1 200 kg** MTOM or less;

Balloons designed for **maximum 4 persons**;

Hot air airships designed for **maximum 4 persons**.



Light Certified aircraft

Aeroplanes with a MTOM of **2 000 kg** or less with a seating configuration of maximum **4 persons**;

Sailplanes or powered sailplanes of **2 000 kg** or less;

All balloons;

Hot air airships*;*
Passenger gas airships designed for **maximum 4 persons;**

Rotorcraft with a MTOM of **1 200kg** or less with a seating configuration of maximum **4 persons**;
Gyroplanes;

Piston engines and fixed pitch propeller on above

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Specifics of Part 21 Light -Certified

Specifics of Part 21 Light -Certified

- An application for a Type Certificate is still required (EASA Forms have been adapted)*(21L.A.24)*;
- To be eligible *(21L.A.22)* for a Type Certificate applicant must be either:
  - An approved design organisation (i.e. DOA holder) under Part 21 Subpart J;
  - A declared design organisation under Part 21 Light Subpart J.
- For production of a certified product the organisation can be either *(21L.A.143 (c))*:
  - An approved production organisation (i.e. POA holder) under Part 21 Subpart G;
  - A declared production organisation under Part 21 Light Subpart G.
- The certification basis for the product is established and notified to the applicant by EASA *(21L.B.43)*;
- A compliance demonstration plan is prepared by the applicant and approved by EASA *(21L.A.24 (b)(21L.B.46(a))* ;





Specifics of Part 21 Light -Certified

- Compliance documentation is provided to EASA in case of need *(21L.A.25 (a)&(b))*;

- Before 1st flight and approval of the flight conditions and issue of the permit to fly:
  - EASA conducts a 'critical design review of the design and a physical inspection and assessment of the aircraft' *(21L.B.242 (a)(1))*
  - NAA conducts a 'physical inspection of the aircraft' *(21L.B.241 (a)(1))*

- The purpose is for:
  - EASA: to ensure that the aircraft is capable of safe flight, and that flight testing can be conducted safely;
  - The NAA: to be satisfied that the aircraft conforms to the design for the requested permit to fly;

Specifics of Part 21 Light -Certified

- The secondary purpose is for:
  - EASA: to conduct a first oversight visit of the declared design organisation;
  - The NAA: to conduct a first oversight visit of the declared production organization.
- The location is at the facilities of the applicant and the physical location of the aircraft that will be issued with the Permit to Fly;
- Findings can be raised against the aircraft and the declared design or production organization;
- If there are no findings (or findings have been resolved) EASA approves the flight conditions and the NAA issues the permit to fly.

Specifics of Part 21 Light -Certified

- At the end of compliance demonstration all compliance documentation is provided to EASA;
- The applicant declares compliance with the agreed certification basis *(21L.A.25 (f))*;
- At this stage in the process this then triggers:
  - EASA to conduct 'a physical inspection and assessment of the first article of that product in the final configuration' *(21L.B.46 (c)&(d))*
  - The NAA to conduct 'a first article inspection' *(21L.B.143 (b) and 21L.B.161 (c))* .
- Location:
  - The location is at the facilities of the applicant and the physical location of the aircraft that will be issued inspected and assessed.

Specifics of Part 21 Light -Certified

- Purpose of ‘first article inspection’:
  - For EASA to:
    - ‘Verify the compliance of the product with the applicable type-certification basis and the applicable environmental protection requirements’;
    - Conduct oversight of the declared design organization.

  - For the NAA to:
    - Ensure conformity of the aircraft for the first Certificate of Airworthiness (and Noise Certificate);
    - Conduct oversight of declared production organization;

- Timing;
  - Should not be considered to be a single one day event and could be a series of visits before and after the declaration of compliance (e.g. noise testing).

Specifics of Part 21 Light -Certified

- Means of conducting the ‘first article inspection’:
  - Gathering evidence to support compliance through a physical inspection and assessment of the aircraft and, if applicable, of the engine and the propeller;
  - Other forms of evidence include:
    - Witnessing or participating in live testing (including flight testing) of the aircraft, engine, propeller, systems or components;
    - Evaluation of the final compliance-demonstration plan;
    - Evaluation of the completeness of the declaration of compliance;
    - Evaluation of supporting compliance documentation and test reports;
    - Discussions with key design and production personnel;
    - Review of design processes and procedures.

Specifics of Part 21 Light -Certified

- If no findings are raised then:
  - EASA issues the Type Certificate *(21L.B.47 (a))*
  - NAA issues the first Certificate of Airworthiness and Noise Certificate *(21L.B.162 (a) & 21L.B.172 (a))*

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Specifics of Part 21 Light –Declared

Specifics of Part 21 Light –Declared

- An application is not required but the declarant is encouraged to contact EASA as early as possible to initiate a project;
- There are no formal design organisation requirements for the declarant (although they have obligations for design);
- For production an organisation can be *(21L.A.143 (d))*:
  - An approved production organisation (i.e. POA holder) under Part 21 Subpart G;
  - A declared production organisation under Part 21 Light Subpart G.
  - A production organisation using Part 21 Light Subpart R
- The declarant selects the applicable 'technical specifications' that will be the basis for the declaration of design compliance *(21L.B.61)*;
- A compliance demonstration plan is prepared by the declarant and provided to EASA (but not approved) *(21L.A.44 (a))*.





Specifics of Part 21 Light –Declared

- Compliance documentation is provided to EASA but not verified (in case of need) *(21L.A.43 (c))*;
- Before 1st flight and approval of the flight conditions and issue of the permit to fly:
  - EASA conducts 'a physical inspection and assessment of the aircraft' *(21L.B.242 (a)(2))*;
  - NAA conducts a 'physical inspection of the aircraft' *(21L.B.241 (a)(2))* ;
- The purpose is for:
  - EASA to ensure that the aircraft is capable of safe flight, and that flight testing can be conducted safely;
  - The NAA to be satisfied that the aircraft conforms to the design for the requested permit to fly;




Specifics of Part 21 Light -Declared

- The location is at the facilities of the declarant and the physical location of the aircraft that will be issued with the Permit to Fly;
- Findings can be raised against the aircraft *(21L.B.241 (c) & 21L.B.242 (b))*;
- If there are no findings (or findings have been resolved) EASA approves the flight conditions and the NAA issues the Permit to Fly.

Specifics of Part 21 Light –Declared

- At the end of compliance demonstration all compliance documentation is provided to EASA (but not verified) *(21L.A.43 (c))*;

- The declarant submits a Declaration of Design Compliance stating that the design complies with the applicable Technical Specifications (21L.A.43 (a));

- At this stage this declaration then triggers:
  - EASA to conduct 'a physical inspection and assessment of the first article of that product in the final configuration' *(21L.B.46 (c))*
  - The NAA to conduct 'a first article inspection' *(21L.B.251 (b)& 21L.B.161 (c))*

Specifics of Part 21 Light –Declared

- Purpose of ‘first article inspection’:
  - For EASA to:
    - Ensure that the designed aircraft is capable of conducting safe flight during in-service operations and does not have any environmental incompatibilities;
  - For the NAA to:
    - Conduct oversight of the production organization using Part 21 Light Subpart R ;
    - Ensure conformity of the aircraft for the first Restricted Certificate of Airworthiness (and Restricted Noise Certificate).
- Timing;
  - Should not be considered to be a single one day event and could be a series of visits before and after the declaration of design compliance (e.g. noise testing).

Specifics of Part 21 Light - Declared

- Means of conducting the ‘first article inspection’:
  - Gathering evidence to support compliance through a physical inspection and assessment of the aircraft and, if applicable, of the engine and the propeller;
  - Other forms of evidence include:
    - Witnessing or participating to live testing (including flight testing) of the aircraft, engine, propeller, systems or components;
    - Review of the completeness of the compliance-demonstration plan;
    - Determination of the completeness of supporting compliance documentation and test reports and how they relate to the first article under inspection;
    - Discussions with key design and production personnel;
    - In case of need and if relevant, a review of the design processes and procedures in order to determine root causes of any issues that are discovered

Specifics of Part 21 Light -Declared

- If no findings are raised then:
  - EASA registers the Declaration of Design Compliance *(21L.B.63)*;
  - The NAA issues the first Restricted Certificate of Airworthiness and Restricted Noise Certificate *(21L.B.162 (b) & 21L.B.172 (a))*.

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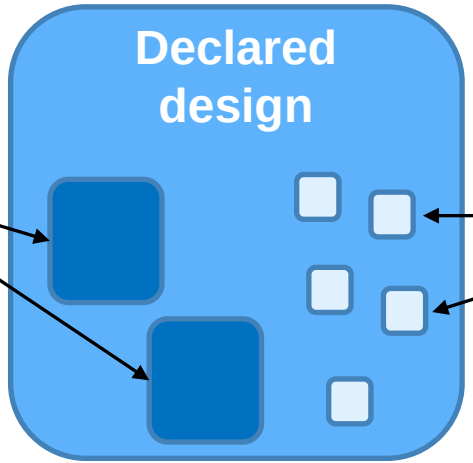
Part 21 Light –Design Changes

Part 21 Light - Design Changes and STCs (1 of 2)

Light Declared aircraft

Declaration for a Major Change signed by the declarant and submitted to EASA for registration

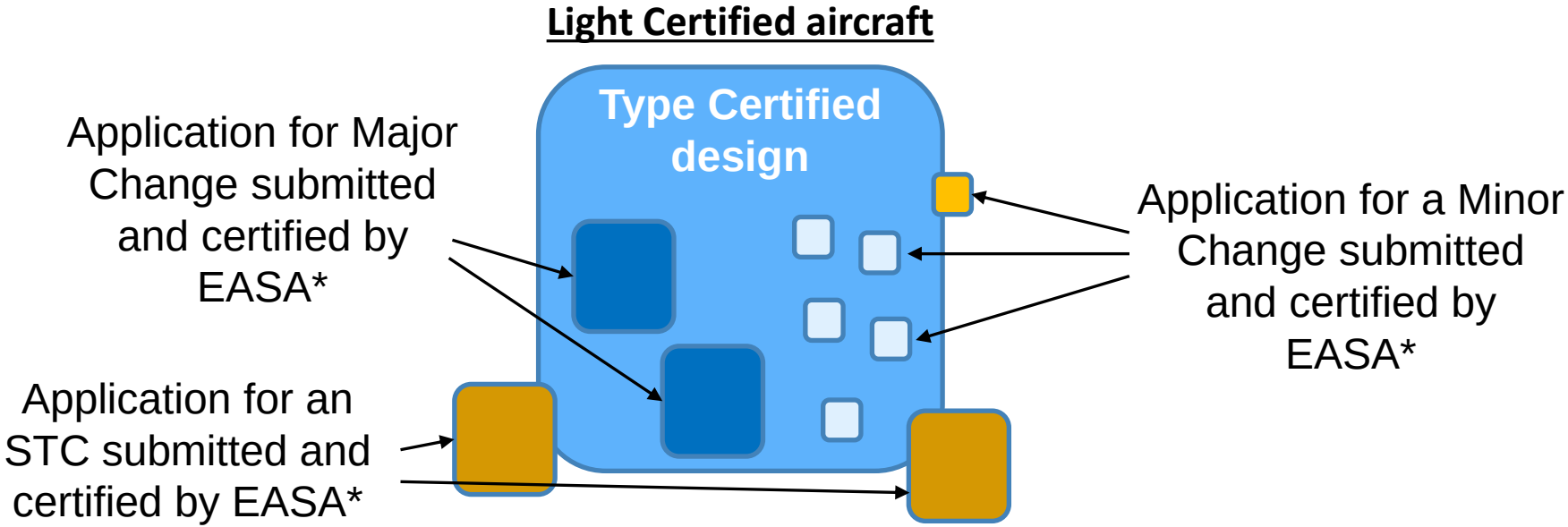


Declaration for a Minor Change signed by the declarant and retained by the declarant in a register

Only the original declarant can make a declaration of design compliance for a major change (no STCs)

For minor changes, the original declarant or a DOA holder can make a declaration of design compliance

Part 21 Light - Design Changes and STCs (2 of 2)



* DOA holders are permitted to use their privileges granted under Part 21 within Part 21 Light

Existing TC and STC holders have 3 years to chose to migrate their certificates to Part 21 Light

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Part 21 Light –Conformity

Part 21 Light - Conformity of individual aircraft

Statement of Conformity

EASA Form 52B issued by manufacturer to attest conformity of an aircraft.

Authorised Release Certificate

EASA Form 1 issued by manufacturer for engines, propellers and parts.

NAA Oversight

After first article inspection, further oversight visits to ensure confirmity are carried out after a risk based evaluation.

CofA/RCofA

Certificate of Airworthiness or Restricted Certificate of Airworthiness issued by NAA after ensuring conformity

Design data

Products and parts must be produced in conformity with approved or declared design data.

Processes and procedures

Manufacturer must use established processes and procedures to ensure conformity to approved or declared design data.

Part 21 Light – Safety issues and enforcement

Part 21 Light- Safety issues and enforcement

- For safety issues, there is no change to the reporting obligations and the Airworthiness Directive process for certified or declared aircraft;
- Findings can be raised against declared organisations and declared aircraft (especially before registration of declaration of design compliance);
- Enforcement actions for certified products are unchanged but for declared aircraft this could include deregistration of the declaration of design compliance.



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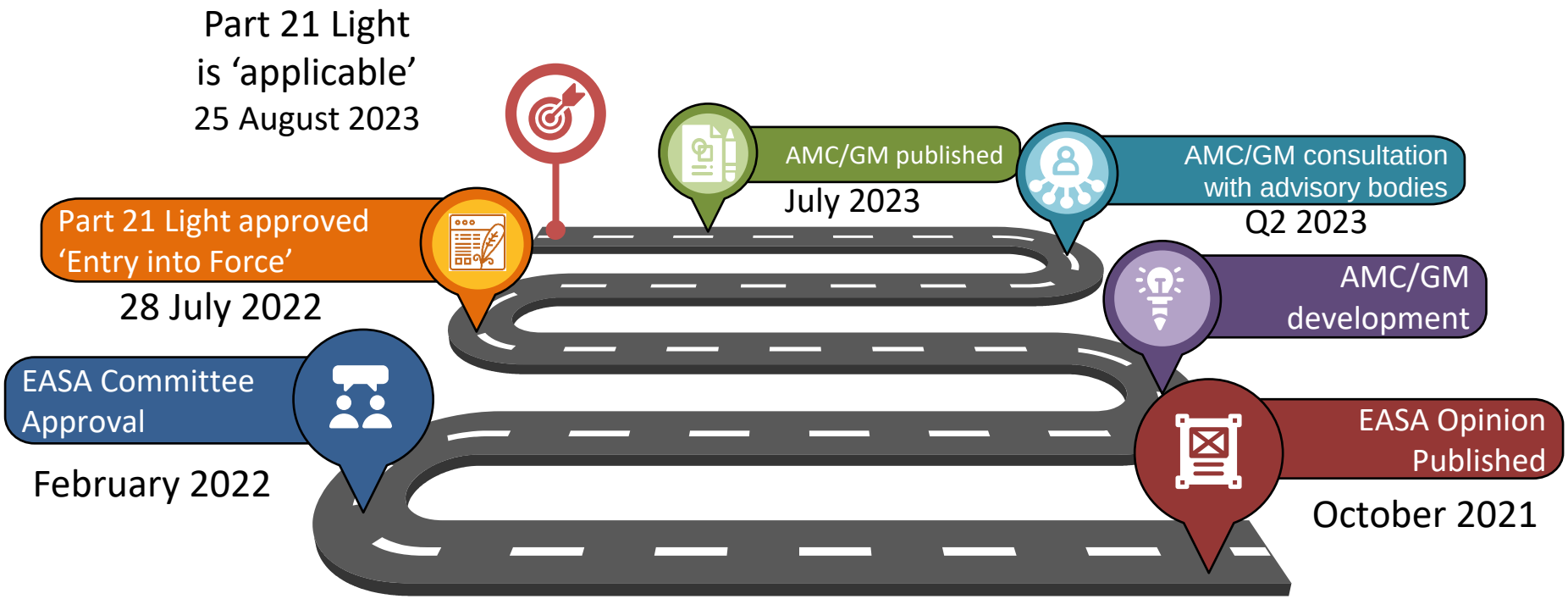
Part 21 Light – Current Status

Next steps for Part 21 Light



Part 21 Light AMC/GM status

- Direct consultation of AMC/GM ‘packages’ with the Advisory Bodies (GA COM/GA TeB) will be conducted (4 -6 weeks);
  - Package 1 – Initial Airworthiness (Subparts A, B, C and P)
  - Package 2 – Design and Production Organisations (Subparts G, J and R)
  - Package 3 – Design Changes and Repairs (Subparts D, E, F, M and N)
  - Package 4 – Airworthiness and Noise Certificates and others (Subparts H, I, K and Q)
- AMC/GM will then be updated based upon comments;
- Complete AMC/GM will be finalised and after proofreading will be circulated for management approval;
- Aim to have the ED Decision before Part 21 Light applicability date.

Part 21 Light – Webinar

Part 21 Light Webinar

15:00 to 17:00 on 27th April 2023

Registration Required

SLIDO also available before Webinar

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Thank you for your attention!

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Your safety is our mission.

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